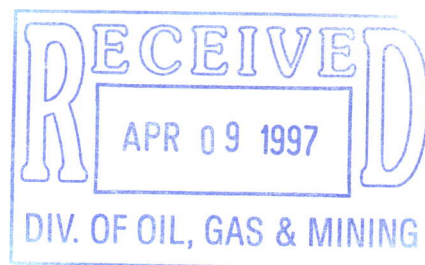


Dames & Moore
Salt Lake City, Utah
April 7, 1997



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY



REPORT
SOIL SAMPLING
for
CONTINENTAL LIME INC.
CRICKET MOUNTAIN PLANT
Delta, Utah
Prepared for
CONTINENTAL LIME INC.

TABLE OF CONTENTS

1.0 SCOPE OF WORK AND FIELD METHODOLOGY	1
2.0 FIELD OBSERVATIONS	2
3.0 ANALYTICAL RESULTS	8
4.0 REFERENCES	9

LIST OF APPENDICES

Appendix A - Photographs

Appendix B - Laboratory Analytical Reports and Chain-of Custody

LIST OF FIGURES

Figure 1 - Vicinity Map

Figure 2 - Site Map

Figure 3 - Unified Soil Classification System

LIST OF TABLES

Table 1 - Analytical Data Summary

1.0 SCOPE OF WORK AND FIELD METHODOLOGY

The Cricket Mountain Plant, owned and operated by Continental Lime Inc., is an active limestone mine located in Delta, Utah (Figure 1). Dames & Moore performed soil sampling from hand-dug test pits to provide soil chemistry analytical results for use in a permit application and for the existing plan of operations. Mr. Victor L. Kastner, Continental Lime's Quarry Supervisor, accompanied Dames & Moore personnel in the field to assure that sampling sites were accurately located in the field. Figure 2 illustrates the eleven sampling localities, and these are identified as follows:

- Dump 1,
- Dump 2,
- Dump 3,
- Dump 4,
- BB Dolomite,
- Upper PM,
- Lower PM,
- PM Fines Topsoil,
- PM Crusher Topsoil,
- Fines, and
- Big Sage.

In addition, photographs of each test pit are provided in Appendix A.

Field sampling included soil classification of eleven samples with respect to the Soil Conservation Service (SCS) classification system and the Unified Soil Classification System [USCS(Figure 3)]. A preliminary SCS map and description of units used to assist with SCS classifications was provided to Dames & Moore by Mr. Robert M. Robison of Continental Lime Inc.. Soil samples were collected using hand tools and placed in glass bottles provided by American West Analytical Laboratory, a State of Utah certified laboratory, located in Salt Lake City, Utah. Samples were handled in accordance with standard EPA and State of Utah sampling procedures and maintained under strict chain-of-custody protocols.

Upon completion of sampling, samples were delivered to American West Analytical Laboratory for analysis. All eleven samples were tested for the following nine analytical parameters:

- pH,
- EC (Conductivity),
- SAR (Sodium Absorption Ratio),
- Percent Organic Matter,
- CEC (Cation Exchange Capacity),
- Total Nitrogen (TKN, as N),
- Nitrate Nitrite (as N)
- Phosphate, and
- Potassium.

2.0 FIELD OBSERVATIONS

2.1 DUMP 1

The Dump 1 soil sample was collected from the *Overburden Disposal Area #1*. A six-inch hand-dug test pit was dug, and the soil sample was collected from the wall of the test pit.

Soil Classification - Dump 1	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association Very pale brown very stony loam.	Dark brown silt with fine sand (ML), contains clasts up to 7 inches in diameter.

2.2 DUMP 2

The Dump 2 soil sample was collected from the *Overburden Disposal Area #2*. A twelve-inch test pit was dug, and the soil sample was collected from the wall of the test pit.

Soil Classification - Dump 2	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam.	Dark brown silt with fine sand and pebbles (ML), contains clasts up to 2 inches in diameter.

2.3 DUMP 3

The Dump 3 soil sample was collected from the *Overburden Disposal Area #3*. A twelve-inch test pit was dug, and the sample was collected from the wall of the test pit.

Soil Classification - Dump 3	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam.	Pale brown silt with minor clay, fine sand and pebbles (ML), contains clasts up to 2 inches in diameter.

2.4 DUMP 4

The Dump 4 soil sample was collected from the *Overburden Disposal Area #4*. A twelve-inch test pit was dug, and the sample was collected from the wall of the test pit.

Soil Classification - Dump 4	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam.	Pale brown clayey silt fine sand and pebbles (ML), contains clasts up to 1 inch in diameter.

2.5 BB DOLOMITE

The BB Dolomite soil sample was collected on the west side of the *BB Dolomite Quarry*. A twelve-inch test pit was dug, and the sample was collected from the wall of the test pit.

Soil Classification - BB Dolomite	
SCS Classification	USCS Classification
16--Dera Family, Dera-Dera sandy loam families association. Very pale brown very gravelly loam.	Yellowish red silt and fine sand with pebbles (ML), contains clasts up to 3 inches in diameter.

2.6 UPPER PM

The Upper PM soil sample was collected from the west side of the *Existing Poison Mountain Quarry*. According to the Quarry Supervisor, Mr. Victor L. Kastner, the sample was collected from a stockpile of crushed Whirlwind Shale, and thereby represents a disturbed sample. A grab sample was obtained from approximately three inches below the surface of the stockpile. The SCS classification outlined below applies to undisturbed soils in the area as depicted on the preliminary SCS map provided to Dames & Moore.

Soil Classification - Upper PM	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam	Yellowish red fine sandy silt with pebbles (ML), contains clasts up to 8 inches in diameter.

2.7 LOWER PM

The Lower Pm soil sample was collected from the west side of the *Existing Poison Mountain Quarry*. According to the Quarry Supervisor, Mr. Victor L. Kastner, the sample was collected from a stockpile of crushed Whirlwind Shale, and thereby represents a disturbed sample. A six-inch test pit was dug into the stockpile, and the soil sample was collected from the wall of the test pit. The SCS classification outlined below applies to undisturbed soils in the area as depicted on the preliminary SCS map provided to Dames & Moore.

Soil Classification - Lower PM	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam	Yellowish red fine sandy silt with pebbles (ML), contains clasts up to 3 inches in diameter.

2.8 PM FINES TOPSOIL

The PM Fines Topsoil sample was collected to the northeast of the *Existing Undersize Material Stockpile*. According to the Quarry Supervisor, Mr. Victor L. Kastner, the topsoil sampled has been moved from another site, and thereby represents a disturbed sample. A twelve-inch test pit was dug, and the soil sample was collected from the wall of the test pit. The SCS classification outlined below applies to undisturbed soils in the area as depicted on the preliminary SCS map provided to Dames & Moore.

Soil Classification - PM Fines Topsoil	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam	Pale brown fine sandy silt with pebbles (ML), contains clasts up to 3 inches in diameter.

2.9 PM CRUSHER TOPSOIL

The PM Crusher Topsoil sample was collected to the south of the *Existing Poison Mountain Quarry*. According to the Quarry Supervisor, Mr. Victor L. Kastner, the material sampled consists of a stockpile of removed material, and thereby represents a disturbed sample. The PM Crusher Topsoil sample was collected approximately three inches below the surface of the stockpile. The SCS classification outlined below applies to undisturbed soils in the area as depicted on the preliminary SCS map provided to Dames & Moore.

Soil Classification - PM Crusher Topsoil	
SCS Classification	USCS Classification
2--Amtoft Family, very shallow-Lodar families association. Very pale brown very stony loam	Yellowish red gravel with clayey interstitial silt (GP).

2.10 FINES

The Fines sample was obtained from the *Existing Crusher* and consists of sand-sized particles of crushed limestone. Soil classifications are not applicable to this sample.

2.11 BIG SAGE

The Big Sage soil sample was collected to the southwest of Big Sage Reservoir. A twelve-inch test pit was dug, and the sample was collected from the wall of the test pit.

Continental Lime Inc.
Soil Sampling
April 7, 1997

Soil Classification - Big Sage	
SCS Classification	USCS Classification
72--Sanpete, moist-Spager families association. Very pale brown very gravelly loam.	Reddish brown fine sandy silt with pebbles and gravel (ML), contains clasts up to 6 inches in diameter.

3.0 ANALYTICAL RESULTS

Analytical results provided by American West Analytical Laboratory are outlined in Table 1.
Laboratory data sheets and the chain-of-custody are included in Appendix B.

Table 1 - Analytical Data Summary									
Sample ID	ph	EC ¹ (mmhos/ cm)	SAR ² (mg/Kg)	Percent Organic Matter (TVS)	CEC ³ (meq/ 100 g sample)	Total Nitrogen (mg/Kg) (TKN)	Nitrate Nitrite (mg/ Kg)	Phosphate (mg/Kg)	Potassium (mg/Kg)
Dump 1	8.2	0.086	0.3	13	400	900	0.17	980	2,300
Dump 2	8.2	0.076	0.2	20	380	640	0.16	550	5,400
Dump 3	8.2	0.083	0.3	15	410	570	0.33	690	7,400
Dump 4	8.1	0.091	0.4	16	390	440	0.18	760	6,500
BB Dolomite	8.3	0.072	0.3	17	390	570	0.21	530	7,000
Upper PM	8.7	0.18	0.4	22	320	360	0.30	440	4,100
Lower PM	8.6	0.10	0.3	18	290	410	0.51	410	4,200
PM Fines Topsoil	8.2	0.130	0.3	19	320	600	0.20	800	5,900
PM Crusher Topsoil	8.0	0.160	0.3	26	350	250	0.43	500	5,200
Fines	8.8	0.120	0.06	24	9.6	150	2.0	39	100
Big Sage	8.2	0.083	0.3	10	400	550	0.21	660	6,500

1 - Conductivity

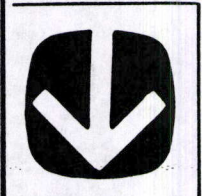
2 - Sodium Absorption Ratio

3 - Cation Exchange Capacity

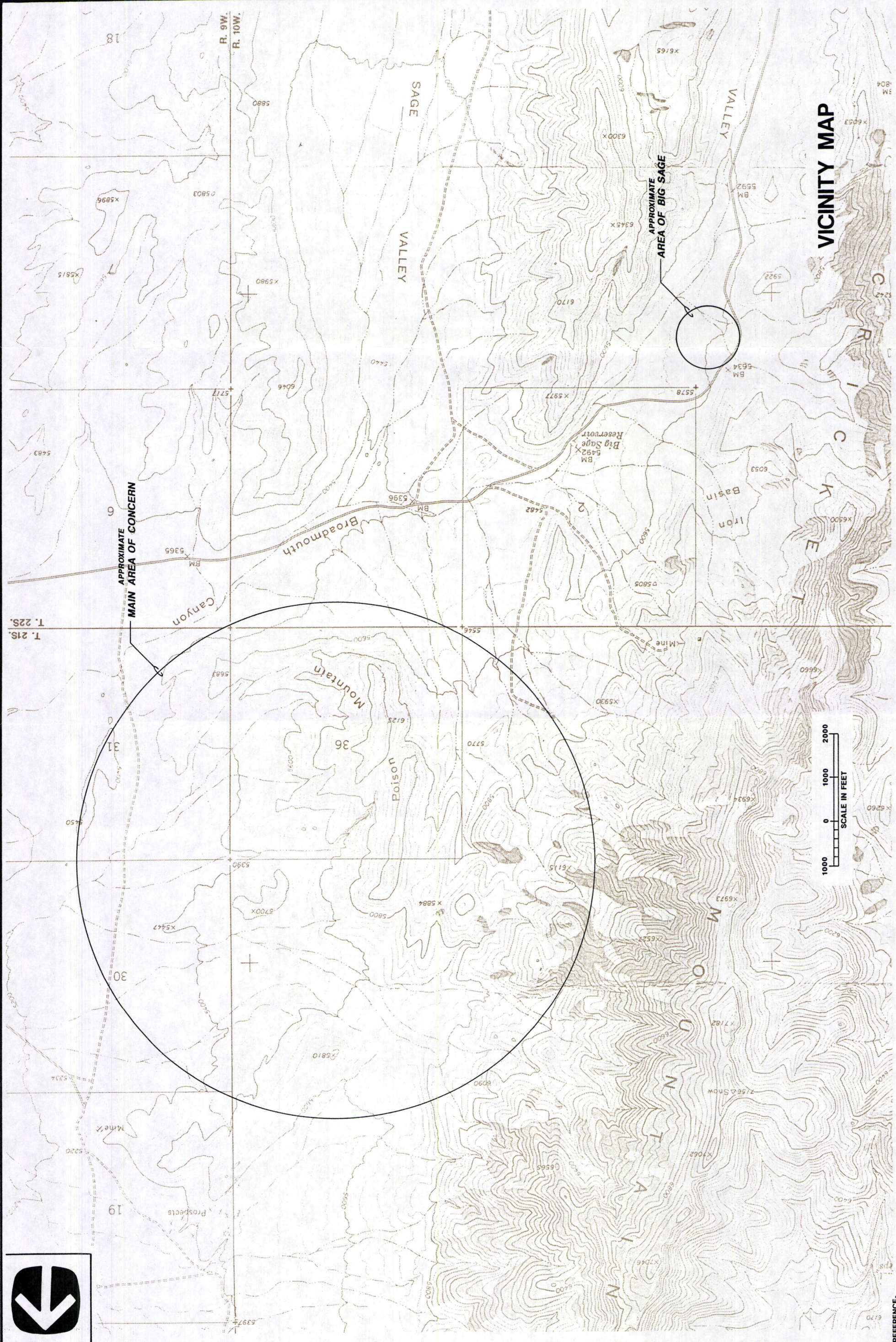
4.0 REFERENCES

Continental Lime Inc., Preliminary Soil Conservation Service Map and Descriptions for the Cricket Mountain Plant Area.

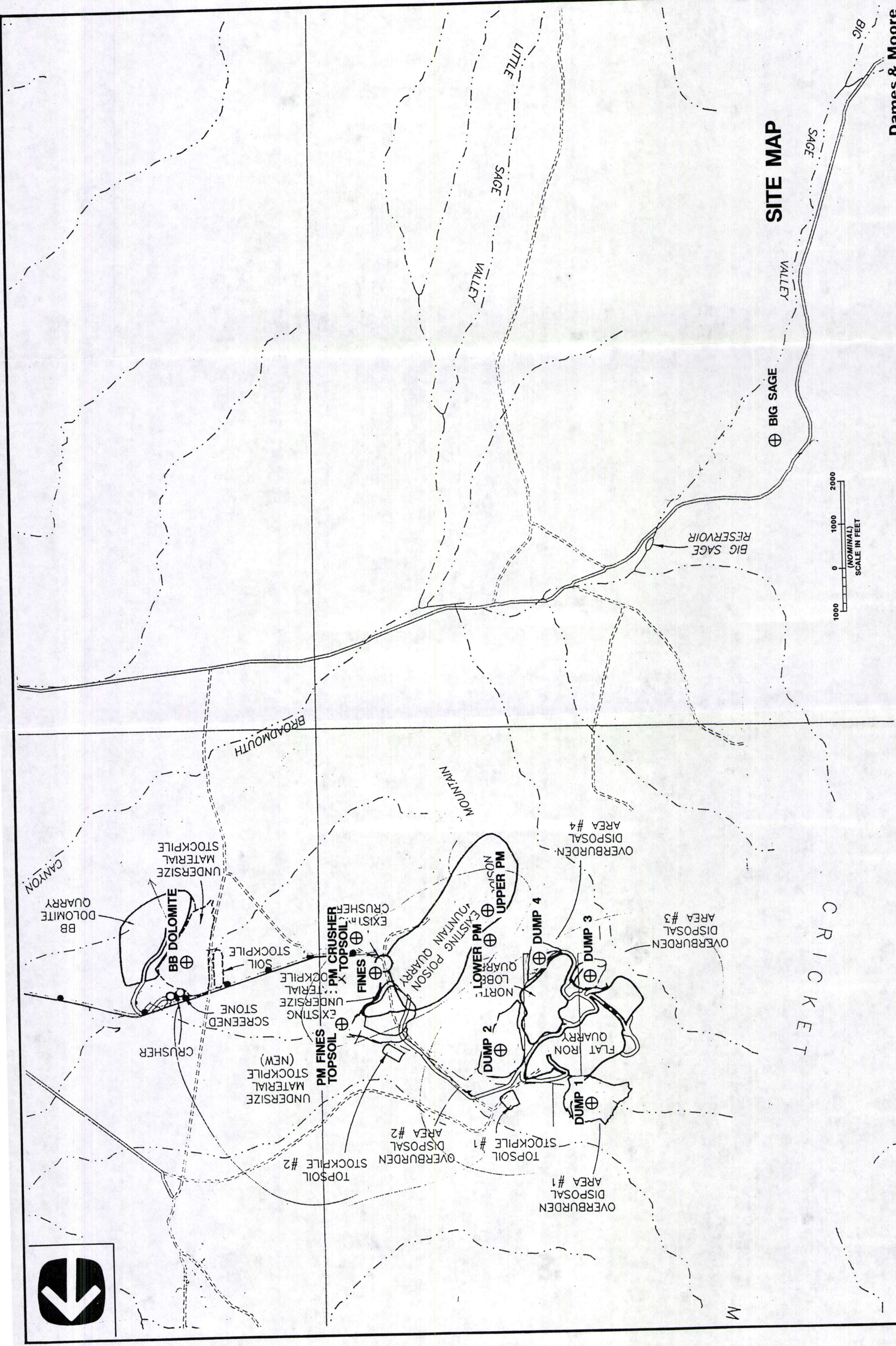
U.S. Geological Survey, 1973. *Candland Spring, Utah Quadrangle Map*, scale 1:24 000.



FILE _____ BY _____ DATE _____ CHECKED BY _____ DATE _____



REFERENCE -
ADAPTED FROM U.S.G.S. TOPO MAP,
"CANDLAND SPRING, UTAH," 1973.



Dames & Moore

FIGURE 2

REFERENCE-
 ADAPTED FROM DRAWING
 PROVIDED BY CLIENT.

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND-SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SAND, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

UNIFIED SOIL CLASSIFICATION SYSTEM

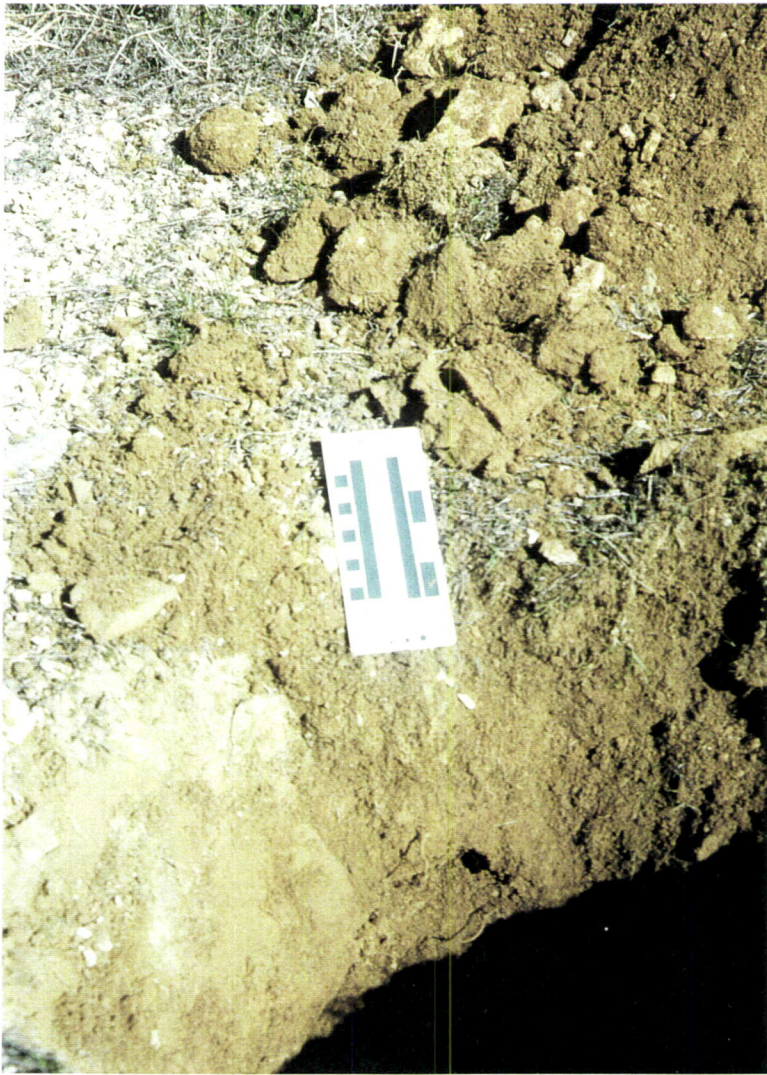
APPENDIX A
PHOTOGRAPHS



DUMP 1



DUMP 2



DUMP 3



DUMP 4



BB DOLOMITE



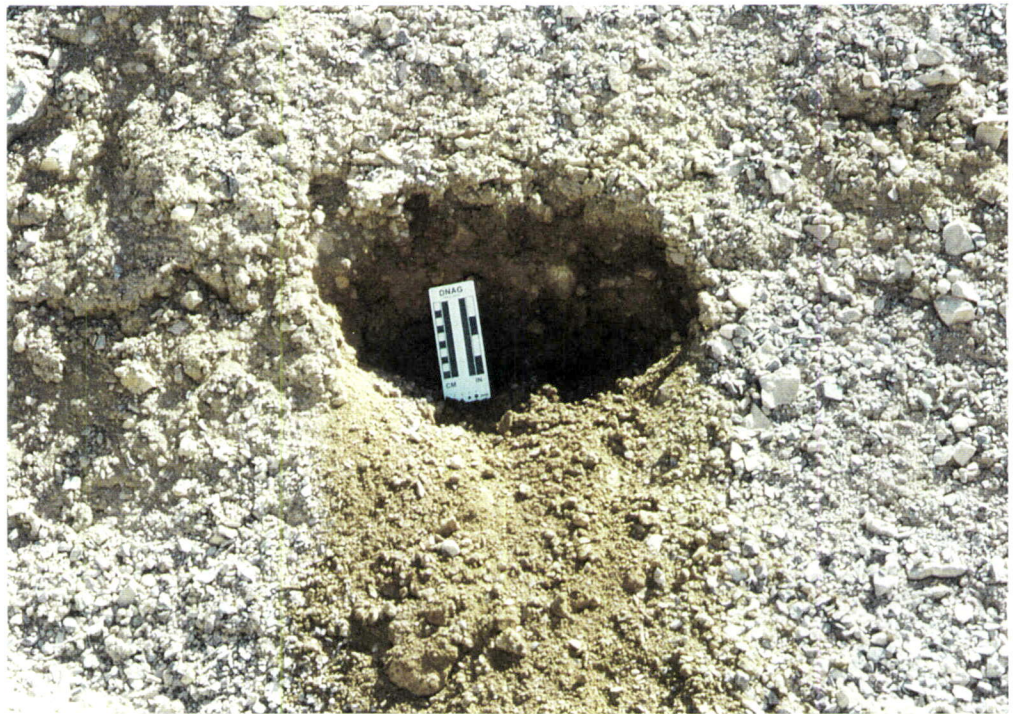
UPPER PM



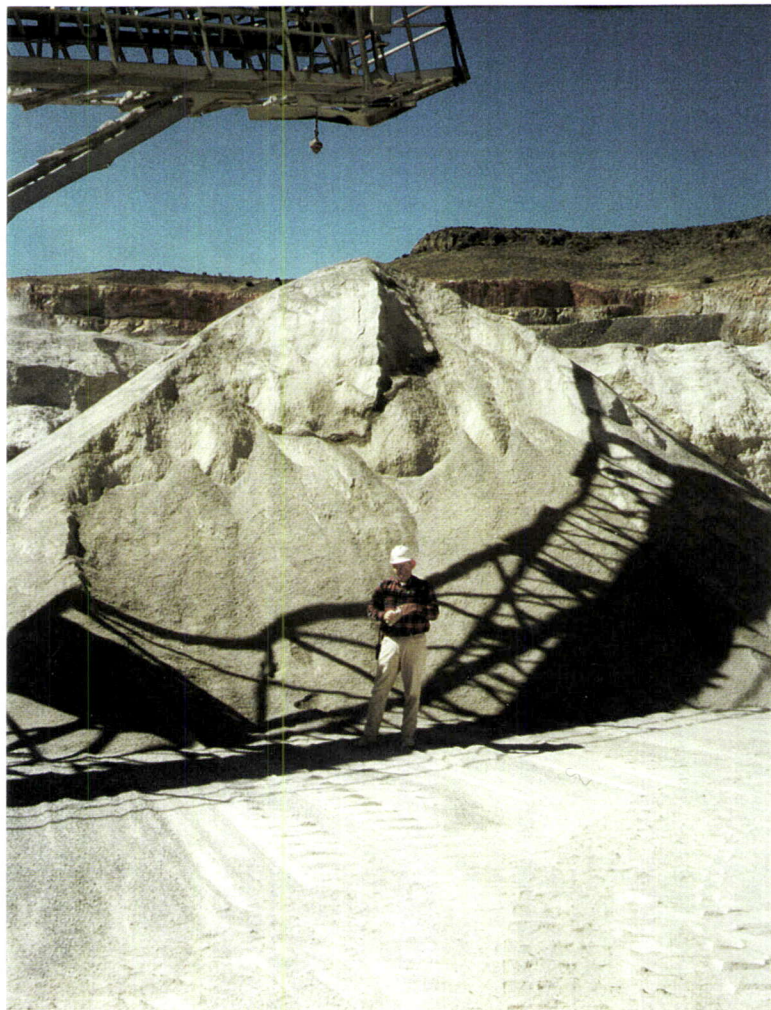
LOWER PM



PM FINES TOPSOIL



PM CRUSHER TOPSOIL



FINES



BIG SAGE

APPENDIX B
LABORATORY ANALYTICAL
REPORTS AND CHAIN-OF-CUSTODY



AMERICAN
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LABORATORIES

463 West 3600 South
Salt Lake City, Utah
84115

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687

INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-10
Field Sample ID.: Continental Lime/
Dump 1

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	2,300.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	400.
*†Conductivity	120.1	0.01	0.086
*Nitrate (as N)	353.2	0.01	0.11
*Nitrate/Nitrite (as N)	353.2	0.01	0.17
*pH	9045	0.1	8.2
Phosphate (as P ₂ O ₅)	365.4	0.2	980.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	900.
TVS	160.4	1.0	130,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

Released by:

Diane Baker
Laboratory Supervisor

Report Date 3/28/97

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-04
Field Sample ID.: Continental Lime/
Dump 2

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	5,400.

OTHER CHEMISTRIES

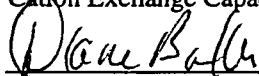
ΔCation Exchange Capacity	9081	0.1	380.
*†Conductivity	120.1	0.01	0.076
*Nitrate (as N)	353.2	0.01	0.10
*Nitrate/Nitrite (as N)	353.2	0.01	0.16
*pH	9045	0.1	8.2
Phosphate (as P ₂ O ₅)	365.4	0.2	550.
SAR(Sodium Absorption Ratio)NA		NA	0.2
TKN (as N)	351.2	0.1	640.
TVS	160.4	1.0	200,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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Report Date 3/28/97

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-03
Field Sample ID.: Continental Lime/
Dump 3

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	7,400.

OTHER CHEMISTRIES

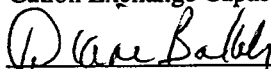
ΔCation Exchange Capacity	9081	0.1	410.
*†Conductivity	120.1	0.01	0.083
*Nitrate (as N)	353.2	0.01	0.18
*Nitrate/Nitrite (as N)	353.2	0.01	0.33
*pH	9045	0.1	8.2
Phosphate (as P ₂ O ₅)	365.4	0.2	690.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	570.
TVS	160.4	1.0	150,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-02
Field Sample ID.: Continental Lime/
Dump 4

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	6,500.

OTHER CHEMISTRIES

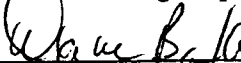
ΔCation Exchange Capacity	9081	0.1	390.
*†Conductivity	120.1	0.01	0.091
*Nitrate (as N)	353.2	0.01	0.10
*Nitrate/Nitrite (as N)	353.2	0.01	0.18
*pH	9045	0.1	8.1
Phosphate (as P ₂ O ₅)	365.4	0.2	760.
SAR(Sodium Absorption Ratio)NA		NA	0.4
TKN (as N)	351.2	0.1	440.
TVS	160.4	1.0	160,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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Laboratory Supervisor

Report Date 3/28/97

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-05
Field Sample ID.: Continental Lime/
BB Dolomite

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit: mg/Kg</u>	<u>Amount Detected: mg/Kg</u>
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	7,000.

OTHER CHEMISTRIES

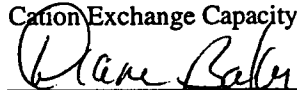
ΔCation Exchange Capacity	9081	0.1	390.
*†Conductivity	120.1	0.01	0.072
*Nitrate (as N)	353.2	0.01	0.18
*Nitrate/Nitrite (as N)	353.2	0.01	0.21
*pH	9045	0.1	8.3
Phosphate (as P ₂ O ₅)	365.4	0.2	530.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	570.
TVS	160.4	1.0	170,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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Laboratory Supervisor

Report Date 3/28/97

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-07
Field Sample ID.: Continental Lime/
Upper PM

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	4,100.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	320.
*†Conductivity	120.1	0.01	0.18
*Nitrate (as N)	353.2	0.01	0.21
*Nitrate/Nitrite (as N)	353.2	0.01	0.30
*pH	9045	0.1	8.7
Phosphate (as P ₂ O ₅)	365.4	0.2	440.
SAR(Sodium Absorption Ratio)NA		NA	0.4
TKN (as N)	351.2	0.1	360.
TVS	160.4	1.0	220,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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Diane Baker
Laboratory Supervisor

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-08
Field Sample ID.: Continental Lime/
Lower PM

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	4,200.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	290.
*†Conductivity	120.1	0.01	0.10
*Nitrate (as N)	353.2	0.01	0.31
*Nitrate/Nitrite (as N)	353.2	0.01	0.51
*pH	9045	0.1	8.6
Phosphate (as P ₂ O ₅)	365.4	0.2	410.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	410.
TVS	160.4	1.0	180,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

Released by:

Diane Bala

Laboratory Supervisor

Report Date 3/28/97

1 of 1



AMERICAN
WEST
ANALYTICAL
LABORATORIES

463 West 3600 South
Salt Lake City, Utah
84115

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687

INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-09
Field Sample ID.: Continental Lime/
PM Fines Topsoil

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	5,900.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	320.
*†Conductivity	120.1	0.1	0.130
*Nitrate (as N)	353.2	0.01	0.09
*Nitrate/Nitrite (as N)	353.2	0.01	0.20
*pH	9045	0.1	8.2
Phosphate (as P ₂ O ₅)	365.4	0.2	800.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	600.
TVS	160.4	1.0	190,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

Released by:

Diane Bolger

Laboratory Supervisor

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-01
Field Sample ID.: Continental Lime/
PM Crusher Topsoil

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	5,200.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	350.
*†Conductivity	120.1	0.01	0.160
*Nitrate (as N)	353.2	0.01	0.35
*Nitrate/Nitrite (as N)	353.2	0.01	0.43
*pH	9045	0.1	8.0
Phosphate (as P ₂ O ₅)	365.4	0.2	500.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	250.
TVS	160.4	1.0	260,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

Released by:

Diane Bailey
Laboratory Supervisor

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-11
Field Sample ID.: Continental Lime/
Fines

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit:</u> mg/Kg	<u>Amount Detected:</u> mg/Kg
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	100.

OTHER CHEMISTRIES

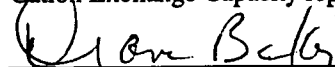
ΔCation Exchange Capacity	9081	0.1	9.6
*†Conductivity	120.1	0.01	0.120
*Nitrate (as N)	353.2	0.01	1.9
*Nitrate/Nitrite (as N)	353.2	0.01	2.0
*pH	9045	0.1	8.8
Phosphate (as P ₂ O ₅)	365.4	0.2	39.
SAR(Sodium Absorption Ratio)NA		NA	0.06
TKN (as N)	351.2	0.1	150.
TVS	160.4	1.0	240,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

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INORGANIC ANALYSIS REPORT

Client: Dames & Moore
Date Sampled: March 13, 1997
Lab Sample ID.: 28763-06
Field Sample ID.: Continental Lime/
Big Sage

Contact: Craig Nelson
Date Received: March 14, 1997
Received By: Sherlyn Lewis
Set Description: Eleven Soil Samples

Analytical Results

	<u>Method Used:</u>	<u>Reporting Limit: mg/Kg</u>	<u>Amount Detected: mg/Kg</u>
TOTAL METALS			
Potassium (as K ₂ O)	6010	6.0	6,500.

OTHER CHEMISTRIES

ΔCation Exchange Capacity	9081	0.1	400.
*†Conductivity	120.1	0.01	0.083
*Nitrate (as N)	353.2	0.01	0.09
*Nitrate/Nitrite (as N)	353.2	0.01	0.21
*pH	9045	0.1	8.2
Phosphate (as P ₂ O ₅)	365.4	0.2	660.
SAR(Sodium Absorption Ratio)NA		NA	0.3
TKN (as N)	351.2	0.1	550.
TVS	160.4	1.0	100,000.

* Analysis is performed on a 1:1 DI water extract for soils.

† Conductivity reported in mmhos/cm @ 25 C.

Δ Cation Exchange Capacity reported in meq/100 g sample.

Released by: *Deane Baker*
Laboratory Supervisor

Report Date 3/28/97

1 of 1

